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Morris Canal and Banking Company

To the stockholders of the Morris Canal and Banking Company, April 1, 1861.

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TO THE

STOCKHOLDERS

OF THE

Morris Canal and Banking Company,

APRIL 1, 1861.

NEW YORK:
LATIMER BROS. & SEYMOUR, STATIONERS, 21 NASSAU STREET.

1861.

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TO THE

STOCKHOLDERS

OF THE

Morris Canal and Banking Company,

APRIL 1, 1861.

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NEW YORK:
LATIMER BROS. & SEYMOUR, STATIONERS, 21 NASSAU STREET.

1861.

DIRECTORS

OF THE

MORRIS CANAL AND BANKING COMPANY,

FOR 1861.

CLASS No. 2, Expires 1862.

JOHN MARSH,	Mendham,	N. J.
J. B. VARNUM,	New York,	N. Y.
ASA WHITNEY,	Philadelphia,	Pa.
COFFIN COLKET,	do.	do.
SAMUEL HART,	do.	do.

CLASS No. 3, Expires 1863.

WILLIAM H. TALCOTT,	Jersey City,	N. J.
ISAAC W. SCUDDER,	do.	do.
WILLIAM WRIGHT,	Newark,	do.
FREDERICK T. FRELINGHUYSEN,	do.	do.
HENRY R. SHOTWELL,	Rahway,	do.

CLASS No. 4, Expires 1864.

MARK DEVINE,	Philadelphia,	Pa.
LEVI DICKSON,	do.	do.
JOHN H. REDFIELD,	New York,	N. Y.
THOMAS N. McCARTER,	Newton,	N. J.
JAMES KEENE,	Philadelphia,	Pa.

CLASS No. 5, Expires 1865.

EPHRAIM MARSH	Jersey City,	N. J.
EBENEZER B. WOODRUFF,	Morristown,	do.
GEORGE W. SOUTH,	Burlington,	do.
ISAIAH V. WILLIAMSON,	Philadelphia,	Pa.
JOHN D. WARD,	Jersey City,	N. J.

CLASS No. 1, Expires 1866.

WILLIAM W. MARSH,	Schooley's Mountain,	N. J.
CHARLES H. FISHER,	Philadelphia,	Pa.
CORNELIUS STEWART,	Changewater,	N. J.

OFFICERS.

EPHRAIM MARSH, ... PRESIDENT.

WM. H. TALCOTT, ... ENGINEER AND SUPERINTENDENT.

LEWIS N. CONDIT, ... SECRETARY.

TO THE STOCKHOLDERS

OF THE

MORRIS CANAL AND BANKING COMPANY.

ANNUAL REPORT.

As required by the Charter, the Directors herewith submit to the Stockholders, the following report of the business done upon the canal, and of the improvements to the works connected therewith, during the fiscal year which closed 28th February, 1861, showing the amount of income for the year, the character, extent, and present condition of the improvements made, or in progress, and the condition of its financial affairs.

The ordinary winter repairs were completed in time to allow of opening the canal, about the 1st of April, and the navigation was maintained without serious interruption, to the close of the season, about the tenth of December.

The business of the canal is steadily on the increase, (as will be seen by the statement of receipts, during the year) which is well calculated to give the Stockholders confidence in the intrinsic value of their investment.

The income of the Company for the year, from all sources, has amounted to the sum of three hundred and fifty thousand seven hundred and ten dollars and sixty-three cents, ($350,710 63,) being an advance of forty-five thousand one hundred and seventy-two dollars and seventy cents, ($45,172 70,) upon the income of the previous year.

The expenditures for maintaining and operating the canal, including repairs to the canal and its works, during the year, have amounted to the sum of $144,272 26, which is somewhat in excess of those of the previous year. The propriety and necessity of this increase, will be seen and appreciated by reference to the annexed report of the Engineer and Superintendent.

There has been paid during the year, a judgment of $3,472 20, obtained against the Company by John W. Murphy, growing out of an accident to the scaffolding used in erecting the Lehigh Valley Railroad Bridge over the Delaware River in 1855, alleged to have been caused by a canal-boat being drifted against said scaffolding, during a freshet in the river. The ferryman of the Morris Canal Company, who witnessed the occurrence, *died* before the trial. While he lived, the cause was not moved by the plaintiff, as he knew his testimony would have been explicit, that there was no act or negligence on the part of any person connected with the Company, to make them liable.

There has been expended since the last Annual Report, for the permanent improvement of the canal and its works, in providing additional boats, and for real estate and land damage (including the outlay at Jersey City), the sum of $82,316 03.

The condition and satisfactory working of the canal during the last year, the beneficial effects of the new form of inclined planes, and the great advantages to the coal trade of the new shipping basin at Jersey City, are so fully set forth in the

annexed report of the Engineer and Superintendent, as to render it unnecessary to do more than refer to it.

It will likewise be seen by that report, that considerable progress has been made in lengthening the locks on the canal, also, what yet remains to be done to complete this improvement. An early completion of this work is very desirable.

Intimately connected with this subject, is the question of changing the route of the canal at Dover, and substituting one inclined plane for five locks, and straightening and otherwise improving the canal at that point. The advantages of the proposed improvements, and the cost of the work, are also fully set forth in the Engineer's report, to which particular attention is invited.

Before the introduction of the Summit planes, (as now constructed) there were some apprehensions of a deficiency of water for any considerable increase of business on the canal. It will be seen, however, by the Engineer's report, that although the business of the last year was larger than ever before, and the season unusually dry, the amount of water left over, removes all ground of concern for the future, until the trade upon the canal reaches over a million of tons (each way) per annum.

It is a source of congratulation to the stockholders, that this form of plane increases so largely the capacity of the canal, and renders unnecessary, for many years to come, any further outlay for an additional supply of water. These results are in accordance with the early suggestions and expectations of the Company's Engineer, whose forecast, skill, and persevering energy, has very materially contributed to the present prosperous condition of the Company's affairs.

It will be remembered, that at the date of the last annual report, it was stated, that upon the completion of certain improvements then in progress, the floating debt of the Company would be about $75,000, and that provision would be made for

its payment, and to defray such other expenses as should be incurred from time to time, in the further improvement or enlargement of the canal and its works. In pursuance of this object, a second mortgage has been laid upon the canal, to secure the payment of $300,000 of Bonds, of which $35,000 only have been sold.

The balance of this indebtedness, and the cost of permanent improvements made since that report, leaves a floating debt of $81,549.56 at the close of the last fiscal year—which will be provided for—together with such further expenditures for permanent improvements as the Board of Directors may authorize, by the issue and sale of so many of said bonds as may be required for that purpose.

In view of the present disturbed state of public affairs, and of the general business of the country, it will not be expected that an estimate of the trade and income of the current year should be attempted; but the preparations made to mine and send to market, Anthracite coal from the Lehigh and Wyoming coal fields, the amount of sales already made, and the increased facilities for storing and reshipping coal at Jersey City, would seem to justify the expectation of an active trade on the Morris Canal, producing results satisfactory to the stockholders.

The usual statements and tables, showing in detail the current business of the last year, the trade and tonnage of the canal, and the general account of liabilities and assets of the Company, will be found annexed to this report.

By order of the Board of Directors.

E. MARSH, *Prest.*

Office of the Morris Canal and Banking Company,
Jersey City, *April 1st*, 1861.

STATEMENT OF THE CURRENT BUSINESS OF THE MORRIS CANAL AND BANKING COMPANY,
FOR THE YEAR ENDING FEBRUARY 28, 1861.

Expenses:			Income—	
Repairs, Canal, and Works..	81,748 09		From Tolls and other Sources.....	350,710 63
Operating Canal.....	32,300 78			
Salaries, Interest, Law, and other Expenses.....	25,316 66			
Transportation Expenses....	4,906 73	144,272 26		
Balance—Profit of the business.....		206,438 37		
		$350,710 63		$350,710 63

GENERAL STATEMENT (TO FEBRUARY 28, 1861) OF THE MORRIS CANAL AND BANKING COMPANY.

Cost of "*Canal and appurtenances*,"		2,835,090 24	CAPITAL STOCK—			
			Consolidated.....	1,025,000		
			Preferred	1,175,000	2,200,000	
ASSETS—			MORTGAGE BONDS.....		535,250	2,735,250 00
Cash	21,797 63					
Bills Receivable...	13,484 14		LIABILITIES—			
Individual Accounts	29,161 74		Bills Payable.....		153,676 44	
Materials	11,995 65	76,439 16	Individual Accounts.....		1,413 84	
			Dividends unclaimed.....		2,868 44	
			Coupons		30 00	157,988 72
			PROFIT AND LOSS—Surplus.		.....	18,290 68
		$2,911,529 40				$2,911,529 40

PROFIT AND LOSS ACCOUNT FOR THE YEAR ENDING FEBRUARY 28, 1861.

EXPENSES AND REPAIRS.....	.....	144,272 26	BALANCE at credit, Feb. 29th, 1860.....	6,737 12
DIVIDENDS, viz.:			INCOME from the business.....	350,710 63
On Preferred Stock.....	117,500 00			
" Consolidated "	41,000 00	158,500 00		
INTEREST ON MORTGAGE BONDS, viz:				
April, 1860.....	15,000 00			
October, "	15,240 00	30,240 00		
JUDGMENT IN MURPHY CASE.....	3,472 20			
Depreciation of Boats, Horses &c.	2,264 21			
Discount on Bonds sold.....	408 40	6,144 81		
BALANCE—Surplus.....	.....	18,290 68		
		$357,447 75		$357,447 75

Statement of Income from Tolls and other sources, in each of the following years.

1845	$18,997 45
1846	51,212 39
1847	67,687 09
1848	65,531 75
1849	90,220 48
1850	98,224 25
1851	110,730 56
1852	140,202 28
1853	187,449 71
1854	245,431 54
1855	272,125 23
1856	313,026 15
1857	286,668 61
1858	275,019 44
1859	305,537 93
1860	350,710 63

ENGINEER'S REPORT.

Engineer's Office,
Morris Canal and Banking Co.,
Jersey City, March 21st, 1860.

Ephraim Marsh, Esq.,
President Morris Canal and Banking Co.:

Sir,—The Canal opened on the western division the 27th of March, and on the eastern division the 5th of April, and closed at the west end on the 8th of December, and at the east end on the 12th of December. The navigation has been maintained in excellent order, and without serious interruption during the whole season.

The current expenses of maintaining and working the canal, for the fiscal year ending February 28th, 1861, have been as follows:

I.—Repairs.

Canal, including Bridges, Culverts, and Waste-weirs.....		$38,130 62
Aqueducts.....		543 83
Locks.....		11,643 60
Inclined Planes.....		29,485 28
Piers, Wharves, and Basins at Jersey City.....		1,944 76
		$81,748 09

II.—Navigation.

Plane and Lock tending, and collecting.....	$29,729 45	
Delaware River, and ferry.....	1,216 49	30,945 94
Total.....		$112,694 03

By reference to the last report, it will be seen that the items, which fall below the corresponding items of last year, are the *Repairs of canal proper*, and the *Plane and lock tending and collecting.*

The first of these items was swelled the previous year, by "*dredging*" that part of the canal which lies between Passaic and Hackensack Rivers; and the "*thorough bottoming out*" of the canal in many other places. The other item was increased the same year by extensive repairs and additions made to the houses occupied by plane and lock tenders, the cost of which was put to this account, because the use of such houses constitute part of the pay of the men who occupy them.

The items of expense which materially exceed the corresponding items of the previous year, are *Repairs of locks* and *Repairs of planes.* In order to explain the increase of the item of *Repairs of locks* as compared with former years, it is necessary to state that the locks as originally constructed, were of stone masonry, laid with *hydraulic cement mortar*—that they were widened and lengthened in 1841—that all the new masonry was then laid with *lime mortar* instead of *cement*—and that the lime had been dissolved, and the mortar washed out to such an extent as to endanger the stability of the walls.

The *repairs* consist principally in *grouting* the walls with hydraulic cement mortar, reflooring the bottom of the lock, and making new gates and wickets. These repairs are necessarily made in the winter, and to prevent injury to the mortar by frost, each lock has to be *housed* and artificially *heated* night and day from four to six weeks. During the winter of 1859–60, five locks were so repaired, and eight more during the last winter.

The excess in the cost of *Repairs of planes* over 1859, is accounted for by the fact, that the renewal of more of the principal parts, such as *ropes* and *rails*, were required last season than usually happens in any one year. The average of the last two years does not exceed the ordinary amount of such repairs.

All the inclined planes have worked well during the season, and the beneficial effects of removing the last of the old planes, was very apparent in the perceptible reduction of freights, and the increased speed and regularity in the movement of the boats.

The pumping apparatus at the Hackensack River, has removed all complaints of *low water* on the tide level between said river and Jersey City, at a cost of less than $300 for the whole season.

The usual *winter repairs* and *spring cleaning of canal*, will be completed in readiness to open the navigation on the 25th inst.

The following table shows the annual fall of water (rain and snow) at Lake Hopatcong Reservoir during the last fifteen years, (beginning with the first day of December, 1845,) ascertained by a rain gauge at that place.

Year.	Amount in inches.	Year.	Amount in inches.	Year.	Amount in inches.
1846	49.84	1851	39.66	1856	39.80
1847	49.24	1852	44.53	1857	46.84
1848	39.57	1853	52.40	1858	41.24
1849	40.56	1854	44.69	1859	55.07
1850	54.26	1855	48.19	1860	37.06

It will be seen that the last has been the dryest year in the series, the fall of water being 18½ per cent. less than the average, and 29 per cent. less than the greatest fall. Notwithstanding this comparative drouth, the canal closed with water enough in *this one reservoir*, to have passed each way over the whole length of the canal more than 800,000 tons, in addition to the trade that was carried.

The annexed table of *trade and tonnage*, shows the movement upon the canal, as compared with former years.

EXPENDITURES DURING THE YEAR, CHARGEABLE TO CAPITAL.

1.	Rebuilding Inclined Planes	$21,281 33
2.	Lengthening Lift-Locks 2, 3, and 4 west, and 2, 3, 11 and 12 east, the Guard Lock at Saxton's Falls, and the Tide-Lock at Jersey City	10,933 88
3.	Piers, Wharves, and Basins at Jersey City	26,732 36
4.	Real estate and Land damages	1,601 24
5.	Fixtures for handling coal and other lading	1,513 02
6.	Boat account, (new boats)	13,844 31
7.	General improvement account	4,209 89
	Total	$80,116 03

The shipping basin at Jersey City, commenced in 1859, has been enclosed on all sides by a substantial *crib work*, thereby securing still water for handling coal on the south side of the company's coal piers; increasing the storage room, and otherwise facilitating the trade of the canal.

Seven *lift locks*, one *guard lock*, and the *tide lock* at Jersey City, have

been lengthened to 100 feet clear in the chamber, in accordance with the plan proposed in the last annual report from this office, and authorized by the Board of Directors on the 20th day July last. There yet remain to be lengthened 16 lift locks, four guard locks, and two tide locks, before the full benefit of this improvement will be realized.

The question of altering the line of the canal at Dover, ought to be decided before lengthening the five locks at that place. According to a survey and estimate heretofore made, $\frac{40}{100}$ of a mile will be saved in distance, and one plane substituted for five locks, by the proposed change, at a total cost of about sixty thousand dollars. The new line will be comparatively straight, and easy to navigate, and will dispense with five locks, and half a mile of difficult and tedious navigation. It is estimated that this improvement will save to the boatmen one third of a day in each round trip. With the present trade of the canal, this would amount to a saving of about $11,000 per season, and with a trade equal to the present capacity of the canal, the saving would be at least $25,000 per season.

Accompanying this report is an accurate profile of the canal in its present state, together with some historical and descriptive notes, referring to its first construction, and the subsequent alterations and improvements made to the canal and its appendages.

In obtaining the information for making these notes, it was also ascertained that the *first Inclined plane* erected by this company, was made at Rockaway (No. 6 east) in 1826, by Mr. E. Kitchell, a millwright. This was a *Summit plane* with the machinery placed on a frame work over the track at the apex of the plane, and proved an entire failure. In 1827 another *Summit plane* was built at Boonton, (No. 7 east,) upon the plan and under the direction of Col. John Scott, with the machinery placed underneath the track at the apex of the plane, and worked with an endless chain. At the same time the "Upper Montville" plane (No. 8 east) was built upon the plan and under the direction of Robt. P. Bell—this also was a *Summit plane* with the machinery placed under the track like the Boonton plane, and worked by two water wheels on one shaft in place of a clutch to change the motion; both these plans were successful experiments, and gave much satisfaction at the time.

In 1829, Ephriam Morris built a plane at Bloomfield (No. 11 East) on a new plan called a *Lock plane*, because the boat was received into a lock at the head of the plane, instead of descending into the upper level on the car as was done at the *Summit planes*. While Mr. Morris was building his plane at Bloomfield, Mr. Eliphalet Miller built a *Lock plane* at Beavertown differing materially from Mr. Morris' plan.

In the autumn of 1829, Maj. D. B Douglass of the West Point

Military Academy, was employed to plan and build the remaining planes on the canal. He made *Summit planes* of all but the one at the Delaware River, (No. 11 west.) That was made a *Lock plane*, but different from either of the other *Lock planes.*

The canal was opened in August, 1831, with the planes built as above described. The first cargo of coal, via the Morris Canal, reached Newark on the 29th day of October, 1831.

During the winter of 1832–3, planes 7 and 8 east were changed to *Summit planes* under Mr. Morris' direction, and according to his plan—and in the winter of 1835–6, all the remaining *Summit planes* were changed by Mr. Morris to his plan of *Lock plane.* In this form the planes continued to be used until the introduction of *Wire Ropes* at plane 6 west in 1848, and with it the return again to the plan of the *Summit plane*, which is the only form now used.

Respectfully, Your obdt. servt.,

W. H. TALCOTT,

Engr. and Supt.

TABLE OF TRADE AND TONNAGE ON THE MORRIS CANAL.

ARTICLES.	1845.	1846.	1847.	1848.	1849.	1850.	1851.	1852.	1853.	1854.	1855.	1856.	1857.	1858.	1859.	1860.
Bar and Pig Iron	5,795	11,356	16,940	16,566	25,978	23,787	23,003	29,201	31,973	18,978	32,291	36,375	32,847	20,115	20,136	15,815
Bloom and Billets.....	1,243	1,686	1,720	1,697	1,638	1,567	793	946	1,082	348	609	270	269	357	487	481
Brick	759	1,429	2,122	3,775	1,987	1,069	690	1,884	2,187	7,056	3,224	2,856	3,681	4,648	4,628	7,484
Casting and Machinery.	74	126	230	195	107	296	389	577	469	825	572	265	1,790	1,044	765	579
Charcoal.....	512	1,022	473	1,167	1,167	840	1,435	1,851	2,214	1,081	838	1,174	649	484	1,069	1,236
Clay, Earth, Sand, &c..	2,466	5,127	6,621	4,825	2,329	6,365	10,117	12,373	39,553	65,842	49,278	25,699	29,165	9,382	15,909	7,303
Dry Gd's, Groceries, &c.	580	1,279	2,585	2,314	3,813	5,411	4,503	2,980	3,062	2,079	1,200	1,909	1,307	2,989	3,121	3,415
Flour, Meal, Feed, &c..	1,635	3,426	2,419	4,319	5,189	5,508	3,533	3,278	4,170	2,263	2,614	2,945	1,287	3,156	3,229	4,630
Hoop, Poles and Rails.					957	1,331	1,062	536	777	437	1,353	995	1,214	900	656	792
Iron Rails	39		5,020	7,377	47	102	139	4,427	1,288	1,047	2,222	195	60		1,113	6
Lime	583	1,804	1,764	2,528	2,163	1,944	2,965	2,627	3,356	4,243	3,546	3,519	3,372	3,702	4,285	5,545
Lime Stone.....	1,516	2,450	1,810	5,480	3,397	3,560	1,066	4,652	3,473	3,157	5,664	3,062	2,635	6,941	7,920	3,946
Lumber	1,516	2,856	3,364	5,450	5,938	6,761	5,546	6,765	11,022	12,002	12,834	11,614	12,085	8,243	13,750	13,809
Mineral Coal	28,291	47,947	67,068	89,879	114 017	104,323	148,262	190,277	235,805	284,606	299,682	311,932	298,011	356,297	365,861	422,552
Nails, Spikes, &c.....	206	442	807	401	305	2,223	2,960	4,613	5,876	5,591	6,209	6,115	5,933	6,218	7,387	7,334
Ore and Forge Cinders.	5,802	17,073	28,314	46,922	53,722	60,055	62,690	77,132	104,151	117,191	113,294	133,845	125,805	108,684	155,467	186,064
Plaster	715	1,784	738	2,102	1,823	1,441	568	741	1,759	932	1,056	1,663	1,229	1,655	3,075	2,165
Timber and Logs	1,315	1,944	3,424	1,913	2,406	2,122	1,066	2,836	3,629	3,986	2,240	2,606	2,562	2,345	6,066	5,476
Wood, Bark, &c.....	5,003	6,766	6,010	6,605	5,325	9,499	9,918	9,503	8,042	9,816	13,139	14,303	10,810	15,863	20,400	15,147
Sundries	215	994	4,130	1,167	1,997	1,478	1,002	1,598	3,400	1,789	1,339	2,071	1,651	1,011	2,695	3,852
Total.....	58,259	109,505	155,559	204,682	234,305	239,682	281,707	358,797	467,288	543,269	553,204	563,413	536,362	554,034	638,019	707,631

ANTHRACITE COAL TRADE OF THE UNITED STATES.

The following Table exhibits the quantity of Anthracite Coal sent to market from the different regions in Pennsylvania from the commencement of the Trade, in 1820, to 1860, inclusive; to which is appended the Semi-Anthracite Trade, the Cumberland Bituminous Trade, the Importations of Foreign Coal, and the Exportation of Domestic Coal:

YEARS.	HARD ANTHRACITES.																		
	SCHUYLKILL.					Sold on line of Schuyl-kill.	LEHIGH.			WYOMING REGION.									
	Canal.	Railroad.	Total.	Pine-grove.	Little Schuyl-kill.		Canal.	Railroad	Total.	By Lehigh R. R.	Del. and Hud. Coal Co.	Penn. Coal Co.	By Canals.	Great Western R. R.	L. & B. Railr'd	Total.	Shamo-kin.	Aggregate	Annual Increase.
1820							365		365									365	
1821							1,073		1,073									1,073	
1822	1,480		1,480				2,240		2,240									3,720	
1823	1,128		1,128				5,823		5,823									6,951	
1824	1,567		1,567				9,541		9,541									11,108	
1825	6,500		6,500				28,393		28,393									34,893	25,352
1826	16,767		16,767				31,280		31,280									48,047	13,154
1827	31,360		31,360				32,074		32,074									63,434	15,387
1828	47,284		47,284			3,154	30,232		30,232									77,516	14,082
1829	79,973		79,973			3,332	25,110		25,110		7,000					7,000		112'083	34,567
1830	89,984		89,984			5,321	41,750		41,750		43,000					43,000		174,734	62,651
1831	81,854		81,854			6,150	40,966		40,966		54,000					54,000		176,820	2,086
1832	209,271		209,271		14,000	10,048	70,000		70,000		84,600					84,600		363,871	187,051
1833	252,971		252,971		40,000	13,429	123,000		123,000		111,777					111,777		487,748	123,870
1834	226,692		226,692		34,000	19,429	106,244		106,244		43,700					43,700		376,636	*decrease.*
1835	339,508		339,508		41,000	18,571	131,250		131,250		90,000					90,000		560,758	184,122
1836	432,045		432,045		35,000	17,863	148,211		148,211		103,861					103,861		684,117	123,359
1838	433,875		433,875	13,000	13,000	28,775	213,615		213,615		115,387					115,387		879,444	195,327
1839	442,608		442,608	20,539	9,000	30,390	221,025		221,025		78,207					78,207		738,697	*decrease.*
1840	452,291		452,291	23,860	20,000	28,924	225,318		225,318		122,300					122,300	11,930	818,402	79,805
1841	584,692	850	585,542	17,653	40,000	41,223	143,037		143,037		148,470					148,470	15,505	864,384	45,982
1842	491,602	49,902	540,892	32,381	37,000	40,584	272,546		272,546		192,270					192,270	21,463	959,973	95,589
1843	447,058	230,254	677,295	22,905	31,000	34,619	267,793		267,793		265,253		47,346			252,599	10,000	1,108,418	148,445
1844	398,887	441,491	839,934	34,916	57,000	60,000	377,002		377,002		227,605		58,000			285,605	10,000	1,263,598	150,170
1845	263,587	820,237	1,083,796	47,928	74,000	90,000	429,453		429,453		251,005		114,906			365,911	13,087	1,630,850	367,252
1846	3,440	1,233,142	1,237,002	58,926	91,000	155,460	517,116		517,116	5,886	320,006		192 503			451,836	10,600	2,013,018	382,168
1847	222,693	1,360,681	1,583,374	67,457	106,401	226,610	633,507		633 507	10,466	388,263		284,398			583,067	14,904	2,882,309	538,804
1848	436,602	1,216,233	1,652,835	61,530	162,626	252,837	670,321		670,321	10,425	437,506		237,271			685,196	19,356	3,089,238	206,929
1850	288,030	1,423,977	1,712,007	70,919	211,960	207,863	690,456		690,466	19,590	454,240		259,080			732,910	19,650	3,217,641	128,403
1851	579,156	1,650,270	2,184,240	*none.*	310,307	312,367	964,224		964,224	32,156	441,403	111,014	243,250			827,823	19,921	3,321,136	103,495
1852	800,038	1,650,912	2,450,950	66,543	325,099	322,211	1,072,136		1,072,136	25,072	479,078	316,017	336,400			1,156,167	24,899	4,329,530	1,008,394
1853	888,695	1,582,248	2,470,943	80,660	889,295	394,078	1,054 309		1,054,309	41,890	497,105	426,164	319,341			1,284,500	25,846	4,899,975	570,445
1854	907,354	1,987,854	2,895,208	91,462	444,184	444,160	1,207,186		1,207,186	26,235	494,327	512 659	442,511			1,475,732	15,500	5,097,144	197,169
1855	1,105 263	2,213,292	3,318,555	112,213	426,208	471,861	1,275.050	9,063	1,284,113	30,232	440,944	496,648	492,689	133,965		1,603,478	63,500	5,831,824	734,690
1856	1,169,453	2,088,903	3,258,356	157,152	454,515	520,499	1,186,230	165,740	1,351,970	44,270	499,650	612,500	510,631	305,530		1,972,581	137,406	6,751,542	262,597
1857	1,275,989	1,709,552	2,985,541	145,012	346,877	511,977	900,314	418,235	1,318,541	37,959	480,699	536,008	407,914	490,023		1,952,603	155,806	6,430,378	*dec.*320,163
1858	1,323,804	1,542,645	2,866,449	137,376	383,931	441.166	909,000	471,030	1,380,030	69,644	348,789	630.056	346,430	683,411	210,042	2,186,094	135,893	6,524,838	93,460
1859	1,372,021	1,632,932	3,004,953	125,262	366,848	254,774	1,050,659	577,652	1,628,311	71,399	591,000	688,854	453,548	829,435	223.806	2,731,236	180,753	7,517,516	992,678
1860	1,356,688	1,878,156	3,288,236	152,957	323,136	608,877	1,091,032	730,642	1,821,674	160,277	499,568	701,523	435,306	1,080,227	000	2,905,901	210,108	8,181,234	613,717
	17,981,570	25,749,449	43,784,411	1,588,039	4,992,640		17,205,130	2,372,362	18,577,492	584,710	9,084,900	5,536,198	5,824,143	3,619,591	433,848	24,965,512	1,244.216	90,306,070	

COAL TRADE OF THE UNITED STATES.—*Continued.*

YEARS.	SEMI-ANTHRACITE AND BITUMINOUS.									Aggregate of all kinds.	Total Increase and Decrease.	Exportation. of Domestic Coal.
	Lykens Valley.	Short Mountain.	Dauphin County.	Treverton.	Broadtop.	Cumberland.	Import of Foreign Coal.	Aggregate.	Increase and Decrease.			
1820										365		
1821							22,122	22,122		23,195		
1822							34,523	34,523	12,401	38,248		
1823							30,433	30,433	*decrease*	41,534		
1824							7,228	7,223	*do.*	18,331		
1825							25,645	25,645	18,417	60,588		
1826							35,665	35,665	10,020	83,712		
1827							40,257	40,257	4,592	103,691		
1828							32,302	32,302	*decrease*	109,818		
1829							45,393	45,393	13,091	157,476		
1830							58,136	58,136	12,737	132,820		
1831							36,509	36,509	*decrease*	113,229		
1832							72,978	72,978	36,469	436,849		
1833							92,432	92,432	19,452	580,180		
1834							71,626	71,626	*decrease*	448,262		
1835							49,969	49,969	*do.*	610,727		
1836							108,432	108,432	58,463	792,549		
1837							153,450	153,450	24,377	1,032,894		
1838							129,083	129,083	*decrease*	867,780		
1839							181,551	181,551	52,468	1.000,153		
1840							162,867	162,867	*decrease*	1,027,241		
1841							155,324	155,394	*do.*	1,115,357		
1842						1,708	141,521	143,227	*do.*	1,251,647		
1843						10,082	41,163	51,245	*do.*	1,314,883		
1844						14,890	87,073	101,963	50,718	1,754,445	417,970	
1845						24,653	85,776	110,429	8,456	2,143,530	390,619	
1846						29,795	156,853	176,648	76,329	2,530,653	407,302	
1847						52,940	148,021	200,961	14,313	3,083,270	552,617	
1848						79,571	196,168	275,739	74,778	3,364,971	281,707	9,209
1849	25,325					142,449	198,213	365,987	90,248	3,583,628	218,651	9,661
1850	37,763					196,848	180,439	415,050	49 063	3,736,184	152,558	38,741
1851	54,200		20,000			257,679	214,774	546,653	131,603	4.876,183	1,139,997	37,727
1852	59,857		33,639			334,178	183.015	610.689	88,962	5,510,664	659,407	45,336
1853	69,007		29,000			533,980	231,508	862,495	252,807	5,960,639	449,975	79,510
1854	57,500	50,000	63,000			648,299	252,865	1,071,664	218,166	6,903,498	942,859	93,884
1855	66,721	50,500	1,000			664,304	287,408	1,069.933	*decrease*	7,565,980	662,482	110,586
1856	61,187	41,739		73.112	42,000	716,324	173,055	1,107,417	37,484	7,858,954	292,974	136,594
1857	65.201	56,538		110,711	78,813	612,291	238,192	1,161,746	51,442	7,593,124	*d* 265,830	130,355
1858	72,398	55,447		106,686	105,478	648,656	259,885	1,249,550	87,804	7,774,388	181,264	118,304
1859	67,564	71,848		124,290	130,595	697,466	281,208	1,372,271	122,721	8,889,787	1,115,399	151,492
1860	77,440	100,652		90,148	187,853	700,000	240,697	1,396,790	24,519	9,528,024	638,232	000,000
	724,182	426,024	146,639	504,997	543,739	6,866,043	5,138,929	13,836,931		104,101,631		961,499

HISTORICAL & DESCRIPTIVE NOTES.

Date of Charter December 31st 1824 – Canal begun July 1825 – Completed from Delaware River to Newark in August 1831 – Extended to Jersey City in 1836 – Drowned Lake reservoir and Rockaway feeder constructed in 1837 – Plans and Locks enlarged in 1841

Original Dimensions.

Canal	*Width at bottom 20 ft – at top water line 32 ft – depth of water 4 feet.*
Locks	*Chambers 9 ft wide and 75 ft long between Miter-sills*
Inclined Planes	*As corresponding with the locks – first constructed on various plans – 20 Summit planes – 5 Lock planes*
Boats	*The first boats carried cargoes of 18 gross tons.*

Alterations.

All the **Summit planes** *altered to* **Lock planes** *in the winter of 1835–6.*
The Planes **widened** *2 ft – and Locks* **enlarged** *to 11 ft width and 95 ft length of chamber in 1841*

Canal sold under a decree of the Court of Chancery by virtue of the "DUTCH MORTGAGE" in 1845

PRO
OF
Morris

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W. H. ALCOTT, E
BY
CHARLES
JANUAR

Horizontal Scale
Vertical do

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THE

s Canal

awn under direction of

, ENGINEER & SUPT.

BY

S D. WARD.

ARY 1861.

r ½ inch = 1 Mile
⅛ do = 100 feet

New Company organized October 21st 1844.

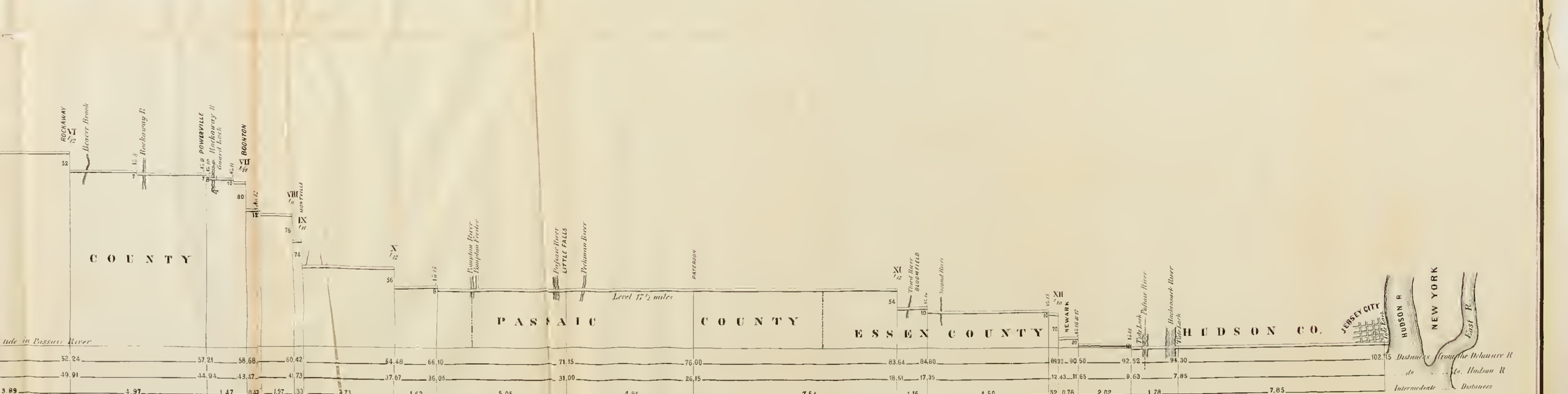
In 1845 commenced to enlarge the Canal to 25 feet bottom – 40 feet top waterline – and 5 feet depth of water.
Section Boats *first introduced in 1845 and carried cargoes of 44 gross tons*
Ram **№ 6 West** *rebuilt and altered to a* **Summit plane** *adapted for* **Wire ropes** *in winter of 1847 8*
All other planes **West** *of the Summit rebuilt like* **№ 6 West** *in winter of 1850-1.*
All planes **East** - - - - - - - - - *during 1852 to 1860 inclusive.*
The boats carried cargoes of 70 gross tons in 1860.

Elevation.

Mean tide water to Canal Summit.		
12 Inclined Planes.	758	
16 Lift Locks.	156	= 914 ft
Delaware River low water to Canal Summit.		
11 Inclined Planes.	691	
7 Lift Locks.	69	= 760 ft
Total rise and fall		1674 ft

Summary of cost in round numbers.

From Delaware River to Newark		$ 2,000,000
Alterations of Planes in 1835-6	230,000	
Extension to Jersey City 1836	600,000	
Guttenberg Reservoir and feeder	170,000	
Enlargement of Planes & Locks in 1841	900,000	$ 3,900,000
Enlargement of Canal & building Planes		1,700,000
Total cost		$ 5,100,000



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